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OF THE

Oregon Agricultural College

AND

Experiment Station

FOR THE YEAR ENDING

JUNE 30, 1896.

AGRICULTURAL COLLEGE PRINTING OFFICE,
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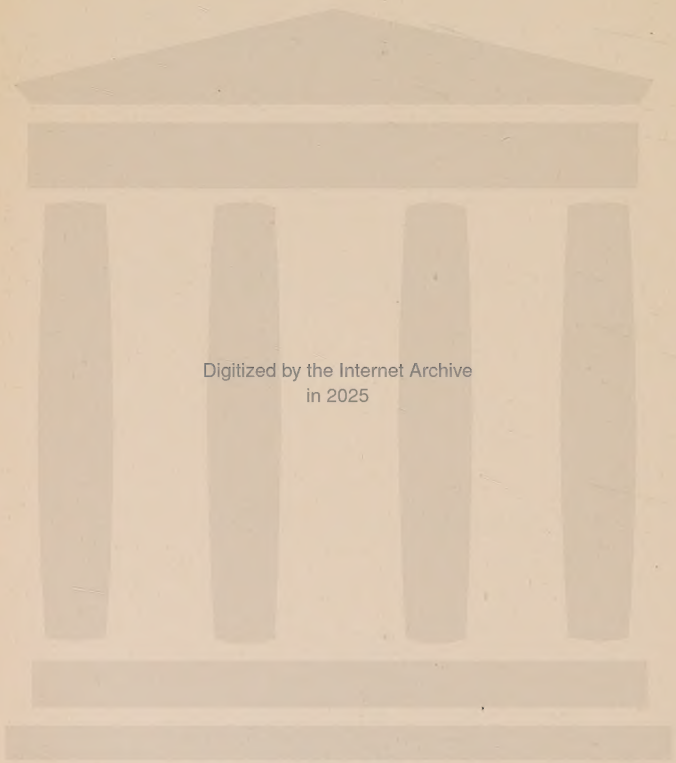

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ANNUAL REPORT

OF THE

Oregon Agricultural College and Experiment Station, 1896.

Report of the President of the Board of Regents.

To His Excellency, W. P. Lord, Governor of Oregon:

SIR:—In compliance with the law, I have the honor to respectfully submit to you, this the eighth annual report of the State Agricultural College and Experiment Station of the State of Oregon.

This has been the most prosperous year in the history of this institution. The president, professors and teachers have one and all cheerfully worked with each other for the education and elevation of the young men and women who have attended this college.

The number of students enrolled during the year was 397, this is greatly in excess of the attendance during any preceding year, and has reached the limit to which this institution can accommodate the young people seeking to avail themselves of the education intended by its establishment, unless some provision is made by the state to increase the room in the college building.

I am of the opinion that the time has come when the Board should discontinue the preparatory department, and thus obviate the expense of making it necessary for the immediate future to increase the capacity of the school room. This would relieve this institution of about 80 pupils that now have been prepared for the collegiate course.

The retention of the number of professors and teachers now on our rolls would enable the President of the college to so distribute the work that we could extend the experimental work of the station and at the same time advance the work of teaching in the college branches. Should this course be adopted at this time, it seems to me that we could safely calculate, that we can maintain this college and station without asking the state for any appropriation for buildings at this time.

I am gratified to be able to report to you, that notwithstanding the Board of Regents increased the number of professors and teachers in the college and station, the expenditures for the year have not exceeded the available means provided by the general government for the college and station, without any aid directly from the State of Oregon.

Last year there was on the 30th of June $2,550.00 of the interest from the sale of college lands unexpended; this amount was added to the principal under the laws of Congress.

During the year there has been added to the college and station a new boiler for the mechanical building, a dairy with modern appliances, and other minor improvements, costing $3,502.68.

FINANCIAL EXHIBIT.

Improvement fund as per act of the Legislative Assembly of the State of Oregon, of February 20, 1893.

Cash on hand July 1, 1895	$ 2,601.41
Cash received from assignee of Hamilton, Job & Company bank, 10 per cent on $9,736.16	973.61
Amount to be accounted for	$ 3,575.02

DISBURSEMENTS.

Improvement on account of college	$ 2,534.40
Improvement on station	968.28
Cash on hand to balance	72.34

The balance of this fund remaining in the bank of Hamilton, Job & Co., insolvent debtors, $6,815.33.

Experimental station fund as per act of Congress March 2, 1887.

Received from U. S. Treasury	$15,000.00

Accounted for as follows:

For salary of directory and professors	$ 9,430.60
For labor on station ground	2,222.51
Supplies, etc.	2,430.97
Publication of bulletins and other expenses of station	832.25
Cash on hand to balance	83.77
The amount accounted for	$15,000.00

COLLEGE FUND.

Cash on hand July 1, 1895, as per report	$ 740.88
Cash received of U. S. Treasury, as per act of 1890	21,000.00
Received from assignee of bank of Hamilton, Job & Co., dividend of 10 per cent on $7,928.58	792.86
Cash received of State Treasurer, interest on account of land funds	4,160.95
Cash received from sale of products of college farm and other sources	1,714.71
Total amount to be accounted for	$28,409.40

DISBURSEMENTS.

For president, professors and teachers	$ 9,574.25
For janitors and other labor on farm, printing office, shops and college	1,280.24
Fuel for college, shops, etc.	3,292.16
For miscellaneous expenditures	3,408.29
For amount of warrants of last year paid	419.90
Cash on hand to balance	434.56
Total amount accounted for	$28,409.40

The balance of this fund remaining in the bank of Hamilton, Job & Co., insolvent debtors, $5,550 00.

RECAPITULATION.

All moneys on hand July 1, 1895, and that have been received during the year.

Balance on hand of improvement fund as per report	$ 2,601.41
Balance on hand of college fund as per report	740.88
Received 10 per cent dividend from Hamilton, Job & Co. bank, improvement fund	973.61
Received as per act of Congress, March 2, 1887, experimental station fund	15,000.00
Received from U. S. Government as per act of Congress, August 30, 1890	21,000.00
Received dividend from Hamilton, Job & Co. bank, college fund	792.86
Received of State Treasurer, interest on land fund, as per act of Congress July 2, 1862	4,160.95
Amount receiyed from products from college farm and station	1,714.71
Total amount to be accounted for	$46,984.42

DISBURSEMENTS AND AMOUNTS ON HAND OF THE SEVERAL FUNDS.

Expenditures of improvement fund during year	$ 3,502.68
Expenditures on account of station during year	14,916.23
Expenditures on account of college fund during year	27,554.94
Amount of warrants of last year paid	419.90
Balance of improvement fund on hand	72.34
Balance of station fund on hand	83.77
Balance of college funds on hand	434.56
Total	$46,984.42
In addition to the cash on hand, there will be available for ensuing year, under the act of Congress of March 2, 1887	$15,000.00
College fund as per act of Congress, August 30, 1890	22,000.00
College fund, interest account, act of Congress July 2, 1862, about	7,000.00
Estimated sales from farm of college and station	1,500.00
Total	$45,500.00

During this year there have been no fees at any time charged for attendance at this institution. I would submit that it seems but just that a reasonable charge should be made upon students for the privilege and advantages they receive at this institution for the use of rooms in the hall and dormitory of the college.

The income derived should be used exclusively for the improvement on said buildings, and thus provide in part for their maintainance. This would obviate the necessity of asking the Legislative Assembly to provide by taxation upon our people for such improvements.

During this year it has been demonstrated through the efforts of Miss Margaret Snell, professor of hygiene, that it was possible for the young ladies who live at the dormitory to greatly reduce the weekly expenses of their board.

I would recommend that at the coming session of the Legislative Assembly of the State of Oregon, to so amend the Act creating and providing for the appointment of said Board of Regents, that said Board may elect as secretary and treasurer other than members of said Board.

It is a matter of great satisfaction to me to be able to report to you that during the two years drawing to a close, we have maintained the high standing of this institution without asking for any

funds from the State of Oregon under the Act of October 20, 1882, or the Act of February 20, 1889, for any money.

I would recommend that the Legislative Assembly of the State of Oregon repeal section 2691 of Hill's Code. And in view of the pressing needs of the college and station for means that would be available for required improvements on the buildings and grounds of the state during the ensuing two years, that an appropriation of under the Act of February 18, 1889, of $5,000.00 per year or so much thereof as may be found absolutely necessary, be appropriated for such purpose.

There was received in September, 1895, $3,000.00 from the state treasurer. This sum was drawn for by a requisition June 24, 1895. And the amount was taken up and accounted for by the treasurer of this Board in his annual report for the year ending June 30, 1895.

J. T. APPERSON,

June 23, 1896. President of the Board of Regents.

REPORT OF THE PRESIDENT AND DIRECTOR.

Honorable J. T. Apperson, President Board of Regents of the State Agricultural College of Oregon:

SIR:—I hereby submit to you and through you to the members of the Board of Regents of the State Agricultural College, a report for the college year of 1895–6.

This report includes the following subjects:

1. College Work, Professors and Students.
2. Improvements and Repairs.
3. Boarding Halls.
4. The Work of the Station.
5. Needs of the College.
6. Needs of the Station.

The work of the college for the past year, both on the part of the professors and students has been, on the whole, most enjoyable. I think that better work has been done, and greater satisfaction rendered than in any previous year.

The faculty, in my opinion, has made every effort to arrest the attention, and to secure the best efforts of the student. The result has been, that as a rule, the students have been willing students. This is the best test that good work is being done.

Those members of the faculty, who have been connected with the college previous to the last year, have in no case lost interest in the work which they had to do, but have made continual growth as teachers.

Those professors and instructors who came to us at the beginning of the year, have proved themselves to be gentlemen, of scholarly habits, and above the average as instructors.

Those members of the faculty, who last year were placed in new positions—given new subjects to teach—have shown themselves not only capable, but have been enabled to inspire the student with much zeal in their work.

Professor Berchtold has done excellent work in physics. There has been no mistake made in placing him in that department. The relief thus given to Professor Shaw, has enabled him to give more time to his work in chemistry, thus enabling him to do better and more satisfactory work. Professor Pernot who took charge of the

work in free-hand drawing, has shown that no mistake was made in recommending him for that position. He was able at once to take up the work, where Professor Berchtold had left it, and to push it to a very high degree of perfection. His work you will find on exhibition in his room, where I hope the board will find time to examine it.

The work in English has been much extended, by requiring English in each year of the course. This has given Professor Horner more work than he was able to do. He has been assisted in the first year classes by Professor Johnson, assistant in mathematics, and Professor Trine of the department of botany. This has given Professor Horner more time with the advanced classes. The placing of English in every year of the course was no mistake, better work is being accomplished, and the help given to Professor Horner has enabled him to devote himself more to the work of the higher classes and for this reason greater interest has been attained. Professor Horner is an energetic and enthusiastic teacher and inspires enthusiasm in his classes.

The work in the department of agriculture has been well managed and conducted by Professor French, as in the past. His classes have shown much enthusiasm in their work. The character of the work in this department has been extended rather in the line of mechanics and dairying than in the special work of agriculture. The mechanical work required of the student of agriculture doubles the time heretofore given to woodwork and blacksmithing and also gives work in repairing machinery and use of the engine. So far as it was possible the present graduating class has completed the whole of the new course.

The work in the dairy they have also taken in addition to the work formerly required.

The work in the department of mechanics has been well conducted under the direction of Professor Covell. Much of their work is now on exhibition. The fourth year class has completed two wood-lathes, which was their special work for the year. We purchased the castings but they have dressed them and placed them in position. The other classes have performed the usual amount of work under the direction of Professor Covell and his assistants. The work in mechanical drawing and blacksmithing was under the immediate direction of Mr. Emmett and the woodwork under Mr. Prichard.

For further particulars as to work accomplished, you are referred

to the report of Professor Covell, which is full and complete. I will only add that the mechanical department has frequently been called upon to make repairs in all the departments of the college. These repairs and improvements have given entire satisfaction.

The work of the department of chemistry is under the direction of Professor Shaw. It has been well done and is very satisfactory. The students in chemistry this year began their work in the second year instead of the first year, as had previously been done under the old course. Hence they were better prepared for the work. This has made it possible to accomplish better work than was expected. The work of Professor Shaw in geology and mineralogy this year has been equally successful.

Professor Shaw has been ably assisted by Professor Fulton. Mr. Fulton has had charge of the work in the chemical laboratory, and has filled his position well. He is both capable and energetic in his work.

The work in physics as indicated above has, under the direction of Professor Berchtold, been well and energetically performed He has also had charge of the work in history, ancient and modern, as well as the work in Latin. In his work in history he had as assistant, Professor Johnson and Professor Trine. The work under the direction of Professor Berchtold has been well conducted.

Professor Fulton, assistant in chemistry, was given charge of the work in meteorology. During the last half of the year he has had an assistant to take the readings. Of this work there has been no complaint from those to whom he reported and it is my opinion that it was well and creditably performed.

The department of household economy at the beginning of the year was transferred to the girls' hall and Professor Snell given charge of the hall as well as the work of her department, an assistant, Mrs. Avery, was employed to give instructions in dress making and to act as matron. The work of this department for the year has been very satisfactory. No difficulty was found in hearing the classes at the hall. The cooking classes have had better advantages because the work could be made more nearly real. The work in dress making had never been fully undertaken before for the want of time and proper help. This year all the young ladies in that department have had the opportunities and have taken advantage of them. I regard the work which is being accomplished in this department as invaluable. It is like all the work in teaching, how-

ever, because it requires much time to prove its value. It will require ten years to show what has been begun.

The preparatory department under the direction of Mrs. Callahan has been entirely satisfactory. Having been connected with this department for the past four years, Mrs. Callahan began the work with three years' experience. There has been no trouble in that department. The students have been interested and consequently studious. Mrs. Callahan has performed all the work in that department except for the last two terms she has had the assistance of Professor Kent two hours each day. The number of students enrolled in that department during the year was eighty.

The department of military science has been under the direction of Professor C. E. Dentler, U. S. A. The time given has been about three-fourths hours per day. I am of the opinion that this department has made much improvement during the year. This is largely due, I think, to the previous work, and I believe next year will show still greater improvements. The work in this department has been very satisfactory. A report of the work of the department accompanies this report.

I have already indicated that the professors who came to us at the beginning of the year have proved themselves worthy the positions which they occupy.

In the department of mathematics Professor Skelton has shown much ability. At first there was some tendency to friction. He followed a man of more than ordinary ability, and one who had much experience. Difference in methods of instruction and mannerism was for a time possibly the chief cause of opposition on the part of a few students. That passed away and I think to-day all the best students in the college give Professor Skelton unstinted praise for his ability. He is energetic and thorough in his work. He has ability to teach. I have no doubt of his future success.

Professor Skelton has been ably seconded in his department by Professor Johnson, his assistant in mathematics. Professor Johnson is a graduate of this college and thoroughly in sympathy with the work of the institution. He has been an assistant in history and English as well as in mathematics, and has proved that he is both capable and efficient in his work.

Professor Cordley has demonstrated the fact that he is an excellent instructor and a broad minded and cultured gentleman. His

work has been very satisfactory. He has created much enthusiasm in his work.

Professor Hedrick, who has charge of the department of botany and horticulture, has proved an agreeable and pleasing teacher. He is enthusiastic in the work of his department, and is endeavoring to secure the very best possible work.

His assistant in the mechanical department, Mr. Trine, is an able man and a good teacher. He has also been a part of the year assistant teacher in English and history. The last term his work has been devoted exclusively to teaching botany.

Professor Hedrick's assistant in horticulture, Professor Coote, has been so long connected with that department that it is unnecessary to say that he understands his work and performs it well. Professor F. L. Kent, who has charge of the work in the dairy, has been in consequence of the number of students and the greater demand for teachers, doing work both in the preparatory and college department.

His work in the dairy I think shows that he is not only entirely competent to do his work in that department, but that he is a pleasing and competent teacher. That department is under the immediate attention of Professor French and in his report you will find a fuller report of the work accomplished. His work in the preparatory and the assistance given to the department of mathematics, by instructing in algebra has been good and shows his ability as a teacher.

The report of the professors at the head of the departments which accompanies this report will give more of detail of the work which they have undertaken and carried into effect.

DEPARTMENT OF PRINTING.

The work in the department of printing has been under the charge of Mr. Clark, and it is my opinion that there has been improvement in the character of the work performed. This is probably due to the fact that he has been relieved from the care of the college accounts and dormitory. Mr. Clark has done all his work with exceeding good will, and with commendable energy.

JANITORS AND OTHER EMPLOYES.

Mr. Robert Erwin, whom you elected janitor of the main building last year was, during last October, stricken down with that

dread desease consumption. Those who are janitors are, I think, much exposed to this disease. If the microbe theory is true it is easy to be seen why it is true.

Mr. Erwin died in the early part of the year, January, 1896. His son took the place of his father and as he has had much experience before, he has made a very faithful and successful janitor.

The employes of the college and station have, I think, all rendered faithful service. They have been loyal to the interests of the college.

STUDENTS.

The number of students in the college has greatly increased this year over any previous year. Last year the number enrolled was 261; this year it is 397. A comparison of the number of students in each of the classes of last year, with those of the corresponding classes of this year, will probably give a better idea of the growth of the college.

	Prep.	1st.	2d yr.	3d yr.	4th yr.	P. Grad.	Sp.	Total.
1894–5	47	85	64	52	7	6	0	261.
1895–6	80	175	63	54	9	14	2	397.

The above indicates the growth of 100 per cent since 1893, when I entered upon the presidency of this institution.

The increase in the number of students over last year has been 50 per cent, while the increase in the first year has been more than 100 per cent. The increase in the number of post graduates has been 120 per cent. These post graduates are with one exception graduates of the agricultural and household economy courses. This demonstrates two facts: First, the good opinion in which the college is held by those who have graduated; and, second, that the extention of the course in agriculture and household economy was a wise step. The increase in the number of students has made it necessary to greatly increase the number of classes—this demands more room for recitations and a greater number of teachers. The first year class was divided into five divisions, the second and third year, each into two divisions.

The moral qualities of the student who entered during the year, and the preparation of the student for his work as a rule have been better than usual. It is my opinion that the moral tone of the school is on a higher plane than it has been since I have been connected with it.

This is shown in the respect which is given to property and the general demeanor of the students.

IMPROVEMENTS.

During the year a large number of improvements and repairs have been made.

Below will be found all the improvements which have been undertaken and the costs:

Dairy Building.

Materials	$331.25
Labor	189.15
Boiler and engine	183.30
Dairy machinery	373.55
Total	$1,077.25

The cost of labor here reported is exclusive of that performed by Mr. Prichard, at the mechanical department, and also of the plumbing that was done by the same department.

On the Farm.

Six thousand feet of tile was laid on the farm. The tile was purchased last year. It was laid by contract. The whole cost for laying tile was $79.72.

The repairs made on the farm for which it was necessary to buy materials were:

Repairs of the scales and fencing near the barn, (lumber and paint), $22.42.

Removal of small barn to new position, $15.00.

All minor repairs have been made by those engaged on the farm.

Mechanical Department.

The following improvements have been made in the mechanical department:

1.	New boiler, (fifty horse power)	$ 518.17
2.	New boiler house, (brick)	250.50
3.	Setting boiler and material	434.60
	Total	$1,203.80

Water Supply.

Well 12 feet wide and 36 feet deep	$ 498.00
Total	$1,701.80

Cauthorn Hall.

The first improvements made at the Cauthorn hall consisted in changing the manner of heating the water for bathing purposes. This improvement was made at the suggestion and under the direction of Professor Covell. He connected the steam boiler used for heating the hall direetly with the water-tank in the fourth story of the building. It has been a great success and when properly managed saves fuel heretofore used in heating water for bathing purposes.

The second improvement at the hall was the stopping the leak in the cupola of the hall. This has given us much trouble and has made some expense in trying to remedy it.

The plan adopted was suggested by Arthur Kruse, a student in the first year mechanical course. The work was carried on by Mr. Prichard and has been a complete success. I speak of this because the lowest bid that we had from carpenters for remedying the trouble was $75.00. It cost about $1.50.

The third improvement made at the hall was the removal of the water closet from a point near the building to the northwest corner of the ground. This was done by a contract for $20.00.

Adjacent to this was erected an earth closet. The work was done by Mr. Prichard who also erected a private water closet for the use of the ladies connected with the dormitory. The cost in each of these cases was the cost of the material.

Eighteen mirrors were furnished the hall at a cost of $4.24.

Girls' Hall.

The improvements made at the girls' hall were as follows:

Papering some rooms, (dining and kitchen and repairs on shades)	$24.91
Water tank for bath tub, and plumbing	63.79
A large mirror for hall-way and mirrors for girls' rooms	48.40

The remaining repairs and improvements have been made by Mr. Prichard, of the mechanical department, as follows:

Repair of bath tub, making cupboard for dining-room, placing shelving in the several pantries, placing wardrobes in each of the rooms occupied by the girls. Also 17 small round tables were made by the mechanical department for study tables. And 5 still smaller tables for wash stands.

Horticultural Department.

The only repair made in the horticultural department was the covering of a part of the dwelling occupied by Mr. Coote at the cost of ——— for material and labor.

College.

The mechanical department has, under the direction of Mr. Prichard, made 20 tables for the use of students in Professor Cordley's room. This now enables each student to do individual work in this laboratory. The cases directed to be procured for the geological cabinet have been made and placed in the museum. The doors and glazing which were made by contract at a cost of $38.88.

Small repairs have been made in all the departments by the regular employes, which would be unimportant to mention. The property has had better treatment than any previous year—but few accidents have happened.

Summary of Improvements.

Dairy building and machinery	$1,077.25
Laying tile (6000 feet)	79.72
Repairing cupola	1.50
Fencing at farm, (material)	22.42
Removal of barn	15.00
Mechanical building, boiler and boiler-house, material	1,203.80
Well	498.00
Cauthorn hall, mirrors, (18)	34 24
Covering Mr. Coote's house	
Girls' hall, mirrors	48.40
Hot water tank and plumbing	63.79
Papering rooms and shades	24.91
Total	$3,267.53

BOARDING HALL.

During the past year the experiment has been made of letting the subsistance of the students at Cauthorn hall on bid.

At the beginning of the year there was much complaint of the board furnished. To remedy the evil Lieut. Dentler was appointed inspector of the subsistance and of the kind of service rendered. He was required to make a written report each week of the quality and quantity of food, the manner of its preparation, its cleanliness—the condition of the hall and out-building as to cleanliness and healthfulness. Since these reports have been required the general condi-

tions have been improved, and I think that fair service has been rendered. Yet the number of students at Cauthorn hall has decreased from 73 in the fall term to about 36 this term, although the number of students in the college has been greater than any previous year. There is another reason, however, which has prevented a large number from boarding at the hall. There are many who are "batching" and they claim that it does not cost them so much a it does at the hall, which I believe is true.

The management of the hall under the direction of Lieut. Dentle as commandant has been well done, and I take pleasure in commending him for the faithful performance of his duties. Th property has been well preserved, as you will find by reference to h report.

GIRLS' HALL.

The girls' hall has been under the management of Professor Sne There has been no friction in this work. She organized the girl at the hall and those living at the hall into a woman's club. The number in the club during the year has been about 20. They furnish their own subsistance and do their own work. I have never heard complaint as to the kind or quality of the food. Those who have entered the club have continued in it as long as they have remained in the college. I think that all are very happy. They have made this hall very home-like and I can say that Miss Snell has been most successful in her work. Everything about the place is refining and elevating. I can heartily recommend it as the best place for girls except at their own homes.

There has been no accidental breakage which has not been paid for. The reported cost of living at the hall per week has been one ($1.00) dollar. The report of Miss Snell accompanies this report.

THE WORK OF THE STATION.

It is difficult to make a report of the work of the station, because it covers a very broad and varied field. In addition to carrying on the regular station work in experimenting, there is a constant and growing demand from all parts of the state for information on almost every subject connected with agricultural, horticultural chemistry and entomology. The diseases of the orchard (and they are numerous) cause much inquiry. Insect pests and fungus growth are being constantly received for identification and information. Inquiries as to the treatment of certain soils for the various crops

the best kind of crops for different parts of the state—what grains and grasses can be best introduced, and the manner of their cultivation, are some of the questions which are being constantly asked. This requires much patient labor on the part of those engaged in station work.

During the year five bulletins have been issued. These bulletins contain the results and experiments and observations made in the state. Each member of the station council has been asked to prepare a full report of the work done and to set forth that which he contemplated carrying out in the coming year. These reports are submitted herewith.

The number of farmers' institutes which have been held is four. They were fairly well attended and following these institutes an increased mail showed that more information was being sought. I am of the opinion that there is no more important way of inspiring new thought and greater endeavor among the people of the state than that secured through the farmers' institutes.

NEEDS OF THE COLLEGE.

The successful college or university must be in harmony with its environments. Of the need of an agricultural and school of mechanic arts, there can be no doubt. The growth of this college determines this. That there was a demand for the elevation of the grade of the college, by extending the course of instruction, has been made evident by the increase of the numbers who have begun a four-years' course instead of a three-years' course. As soon as it is reasonable to take the step there should be another year placed under the college course in preparation for the college work. That you will be unable to do at present. It would be an unwise step now. Next year there will be no three-year class to graduate. Only those who fail for some reason in the present agricultural and household economy courses could be granted that privilege. The only class then ready for graduation next year is that composed of mechanical students and those who take the bachelor of science course. There are some of those in the present three-year classes in agricultural and household economy department, who have for various reasons failed to complete the course this year. It is the opinion of the faculty, and I fully coincide with that view, that these persons should, after having completed the work of the present three-year course, be per-

mitted to graduate at the close of next year. I do not think that the privilege should be extended to others.

If the college next year, continues, as it has this year to grow, then we shall need more teachers in several of the departments. I assume that there will be over 400 here next year. We need, however, a teacher who will be able to devote a large portion of his time to elocution. I suggested this last year and I continue the request. This teacher may be either a male or a female. I would suggest that such a teacher be a woman, and that she give assistance in the department of English or history.

In addition to the present faculty, it is my opinion that it is necessary to employ three assistant instructors. Should the number greatly increase more will be needed.

The room in which physics is now taught is objectionable in two respects: *First*, it is too small for the classes; *Second*, it lacks light which a room devoted to such purposes ought to have. I would suggest that the physical laboratory be transferred to the mechanical building and be placed on the first floor at the south end. This room is now used as an armory, but the armory may be transferred to the two upper rooms on the upper floor. The present physical laboratory rooms should be fitted up for a recitation room.

Our chemical laboratory is too small for the number of students that are crowded into it. It is in the basement of the station building and is not well adapted to the work. I know of no room to which it can be removed.

APPARATUS.

Under the head of apparatus, I will suggest that $400.00 ought to be expended for physical apparatus for the coming year, and that ten microscopes be added to the laboratories of botany and entomology. These would cost now about $350.00.

The lantern which we now have, while a good oil lantern, needs the attachment for using the electric light. Many of the most important things which should be illustrated by a lantern cannot be done by an oil light. In our work at the farmers' institutes the electric light attachment would be of the greatest possible service in showing the insect pests and the fungus growths as well as the effects of disease. We have been in correspondence in reference to this matter with the leading houses and have secured one for trial. We have tried it and find it excellent. I recommend its purchase. The cost is $78.00.

LIBRARY.

There should be at least $300.00 devoted to the extension of the library each year. This year, in consequence of the insufficiency of funds, no addition was made to the library. There are many volumes of bulletins now collected in this library which should be bound in order that the matter which they contain may become available, and that it may not be lost. There is a number of books that should be rebound in order that they may be used. I recommend that $300.00 be set apart for the purchasing of new books for the library and $200.00 be expended for binding books and bulletins.

In the mechanical department there should be some additional apparatus added. That of the first importance is the universal milling machine. This machine is necessary in the construction of other apparatus. Such a machine would cost about $500.00. In the report of Prof. Covell it will be found that the value of the work done in the mechanical department amounts to about $280.00. The new wood-lathes have saved $100.00. He further suggests that as soon as convenient we should have a machine for testing material. These would cost about $100.00. There are some improvements and repairs which it is necessary to make.

1. The water tower should have new sills placed under it, as those now supporting the structure are badly decayed.

2. The roof on the house occupied by Mr. Coote should be replaced at the earliest possible date.

3. The sewer for carrying the water from the girls' hall and the dairy should be put in place.

The estimated cost of these improvements is $450.00.

4. The grounds east of the college ditch should be tile-drained as a first step towards placing these grounds in a better condition. At present there are only a few places that trees can be made to grow on account of the water that stands under ground for several months each year. The cost would not exceed $250.00.

Of the above some are more pressing than others, but if the Board feel that they can undertake this work now, all should be completed as soon as possible.

NEEDS OF THE STATION.

I herewith submit to you the reports of the station council, and as they are more elaborate and full, they will be handed to the committees which have the several departments under their supervision.

1. The most necessary thing for those working in the station council to know is, what funds there are which may be expended in their department.

2. This is important to the head of the department in order that he may be able to determine what he may undertake. For this reason the members of the station council ask that the board may consider the question of fixing some amount which may be available to each of the departments for carrying out their work. They do not wish to control the funds but have them subject to the same conditions as at present, secured through a requistion on the director and president. The only purpose is to know what they may undertake and complete. I am of the opinion that this will be helpful not only to those working in the station but that some general plan should be arranged for the college departmens as well. This plan, if carried into effect, would be helpful to the president.

3. Those connected with the station have much of their time taken up in teaching and in answering questions, through correspondence. This is particularly true of the chemist, and next year the entomologist will have about five hours' work each day, including his work in the laboratory. The department of botany and horticulture at certain seasons will have even more time in teaching. The classes are growing larger and must necessarily be divided, thus doubling the time required. For this reason I have no doubt that next year we shall be compelled to add another assistant in chemistry in order that Professor Shaw may have some time left to devote to the work at the station.

4. At present those employed in the station receive two-fifths of their salary from the station, and three-fifths from the college funds. The proper adjustment of the amount each should receive from each fund, station or council, should be adjusted by the Board.

5. The work of those engaged in the station council has been along those lines, which seemed of the greatest importance to this state. The constant inquiries which come from the several parts of the state, furnish these suggestions as to what lines of experiments have been undertaken for the purpose of settling the food values of certain grasses and grains. Thus, the experiment which is under way now, to determine the value of cheat as hay, has not been scientifically settled anywhere directly. The greatest possible difference of views prevail as to the real value. The same is true for many of the formulæ which are used in the preparation of sprays for the orchard.

The entomologist has yet to determine the life history of many of the insects which infest our orchards. These investigations all require much time and careful observation.

6. In order that the members of the station council and president may have more time to devote to their work I would suggest that a shorthand reporter and typewriter be employed to attend to the clerical correspondence, and the mailing of bulletins, and to such other writing as is not otherwise at present provided for.

Respectfully submitted,

JOHN M. BLOSS,
President and Director.

STATE AGRICULTURAL COLLEGE OF OREGON,

CORVALLIS, Oregon, June 30, 1896.

Report of the President of said institution to the Secretary of Agriculture and the Secretary of the Interior, as required by act of Congress of August 30, 1890, in aid of Colleges of Agriculture and Mechanical Arts.

I. Condition and Progress of the Institution for the year ended June 30, 1896, especially instancing—

(1) Course of methods of instruction. (2) Purpose, structural character, and cost of new buildings, or addition to buildings.

1. The methods of instruction have been gradually improved during the past four years, by requiring more laboratory work in every department and by methods of instruction requiring original research on the part of the student. These meth ds are becoming more and more characteristic of the institution.

2. A dairy building was erected during the year. All students in the agricultural and household economy courses are required to take a complete course in the theory of dairying as well as to do the work in the dairy. The purpose is to encourage farmers to enter into a work "new" in Oregon, and thus to add to the prosperity of the state. It is producing the result desired. The buildings and outfit cost $750.00. A new boiler house (brick) was made as an addition to the mechanical building, cost, $400.00. A well 12 feet in diameter and 36 feet deep was added to our water supply, cost, $550.00. We now have an abundance of water to supply the college plant.

3. The moral tone of the college has never been so high during my connection with the institution. In this respect, I know of no institution in the state which is its superior

The faculty has been earnest and zealous in its work.

II. Receipts for and during the year ended June 30, 1896.

1. Balance on hand July 1, 1895.	(a) Balance college funds on hand	$ 740.88
	(b) Balance building fund on hand	2,601.41
2. State aid.	(a) Income endowment	
	(b) Appropriation for current expenses	
	(c) Appropriation for buildings and repairs	973.61
3. Federal aid.	(a) Income from land grant, act of July 2, 1862	4,953.81
	(b) For experiment station, act of March 2, 1887	15,000.00
	(c) Additional endowment, act of August 30, 1890	21,000.00
4. Fees and all other sources		1,714 71
Total receipts		$46,984.42

III. Expenditures for and during the year ended June 30, 1896.

1. College of agriculture and mechanic arts	$27,974.84
2. Experiment station	15,000 00
3. All other departments, improvements, repairs	3,502.68
4. (a) Balance college funds on hand unexpended	434.56
(b) Balance building funds on hand unexpended	72.34
Total expended and on hand June 30, 1896	$46,984.42

IV. Property and Equipment, year ended June 30, 1896.

Value of all buildings	$83,800.00
Value of other equipment	42,208.00
Value of buildings used by agricultural and mechanical departments	26,800.00
Value of other equipments	14,600.00
Total number of acres of farm 185; acres under cultivation 150; acres used for experiment 80; and value of farm lands	18,500.00

V. Library, year ended June 30, 1896.

Number of bound volumes June 30, 1896	2,200.	Pamphlets	1,000
Bound valumes added during the year	100.	Pamphlets	200
Total bound volumes and pamphlets	2,300.		1,200

VI. Faculty during the year ended June 30, 1896.

	MALES.	FEMALES.
1. College of mechanical arts:		
(a) Preparatory classes	1	1
(b) College and special classes	18	1
Total, counting none twice	19	2

2. Number of other departments, none.
3. Number of staff of experiment station, 5.

VII. Students during the year ended June 30, 1896.

	MALES.	FEMALE
1. College of agriculture and mechanic arts:		
(a) Preparatory class	51	29
(b) Collegiate and special classes	212	105
(c) Graduate courses	210	105
Total, counting none twice	263	134

2. Number in all other departments, none.
3. Number of students that pursued courses in agriculture, 49; mechanical engineering, 151; civil engineering, none; electrical engineering, none; mining engineering, none; architecture, none; household economy, 101; veterinary science, 10; military tactics, 260.
4. What degrees and how many of each kind were conferred in 1895–1896?
   On men: Bachelor of scientific agriculture (B. S. A.), 11; bachelor of mechanical engineering (B. M. E.), 9; bachelor of science (B. S.), 2.
   On women: Bachelor of household economy (B. H. E.), 20; bachelor of letters (B. L.), 1.
5. What and how many honorary degrees were conferred in 1895–1896? None.

(Signed:) JOHN M. BLOSS,

(Date:) July 25, 1896.

REPORT OF THE TREASURER.

COLLEGE FUND.

To the Board of Regents of the State Agricultural College of Oregon:

GENTLEMEN:—Please find enclosed a summary of the receipts and disbursements of the college fund for the year beginning July 1, 1895, and ending June 30, 1896.

There was a balance due this account, as per last report, to the amount of $740.88, which, with the $1,252.96 received from sale of products of farm and garden, make a total amount of $28,409.40 to be accounted for.

The disbursements on this account for the year amount to the sum of $27,974.84, showing a balance of $434.56.

This statement of account does not show the receipt of $3,000.00 from interest fund arising from Act of 1862, obtained September 13, 1895, from the Honorable Secretary of State, for the reason that the same was accounted as on hand by report of June, 1895, a requisition having been made therefor upon him when the report was submitted.

Very respectfully submitted,

J. K. WEATHERFORD, Treasurer.

STATE AGRICULTURAL COLLEGE OF OREGON.

EXPENDITURES BY DEPARTMENTS.

Publications—			
Salary, H. R. Clark		$ 400.00	
Labor		28.45	
Supplies	$ 261.00		
June	15.45		
		$ 276.45	$ 704.90
College—			
Salary, J. M Bloss		$ 2,000.00	
Office		110.65	
Cauthorn hall	$ 194.24		
June	.20		
		$ 194.44	
Labor	$ 633.20		
June	53.30		
		$ 706.50	
Supplies	$ 376.19		
June	.65		
		$ 376.84	$ 3,388.43
Physical laboratory—			
Salary, F. Berchtold		$ 1,500.00	
Labor	$ 2.30		
June	30.00		
		$ 32.30	
Supplies	$ 145.73		
June	30.00		
		$ 175.73	
			$ 1,708.03

Mechanical—			
Salary, G A. Covell	$ 1,500.00		
D. W. Prichard	715.00		
E. G. Emmett	450.00		
		$ 2,665.00	
Labor	$ 389.75		
June	35.00		
		$ 424.75	
Supplies	$ 625.91		
June	25.00		
		$ 659.91	
			$ 3,740.66
Household Economy—			
Salary, M. Snell	$ 1,500.00		
Mary Avery	400.00		
		$ 1,900.00	
Labor	$ 72.84		
June	5.00		
		$ 77.84	
Supplies	$ 54.35		
June	18.20		
		$ 72.55	
			$ 2,050.39
Horticulture and Botany—			
Salary, U. P. Hedrick	$ 500.00		
Geo. Coote	508 15		
D W. Trine	374.85		
		$ 1,383.00	
Labor		7.80	
Supplies		5.65	
			$ 1,396.45
Chemistry—			
Salary, G. W. Shaw	$ 825.00		
J. F. Fulton	400.00		
		$ 1,225.00	
Labor			
Supplies		21.30	
			$ 1,246.30
Entomology—			
Salary, A. B. Cordley	$ 900.00		
Labor	2.60		
Supplies	20.67		
			$ 923.27
Military—			
Salary, C. E. Dentler	$ 540.00		
Labor			
Supplies	$ 109.16		
June	2.00		
	$ 111.66		
			$ 651.66
Salaries—			
J. K. Weatherford, treasurer			$ 200.00
W. E. Yates, secretary			400.00
J. W. Crawford, accountant			431.25
Mr. Erwin, janitor			480.00
G. V. Skelton, teacher			1,500.00
J. B. Horner			1,500.00
Ida B. Callahan			1,000.00
H. T. French			900.00
C. L. Johnson			450.00
E. F. Pernot			200.00
Advertising			147.80
Wood			1,580.52
Sanitary		$ 166.90	
June		17.90	
		$ 184.80	
Furniture			292.47
Traveling expenses		$ 660.95	
June		173.00	
		$ 833.95	
Insurance			618.34
Repairs and betterments		$ 209.37	
June		10.00	
		$ 219.37	
Care of grounds		$ 154.20	
June		101.25	
		$ 255.45	

Museum	$ 27.65	
June	8.65	
		$ 36.28
Miscellaneous	$ 117.00	
June	121.50	
		$ 238.50
Current expenses	$ 63.10	
June	4.13	
		$ 67.23
Library	$ 181.24	
June	9.00	
		$ 190.24
Meteorology		18 65
Traveling expenses, paid June 27, 1895, Board		119.90
Attorneys' fees, paid by order of Board, June 27, 1895		300.00

TOTALS BY SUBJECTS.

Salaries	$19,574.25	Care of grounds	255.45
Labor	1,280.24	Museum	36.28
Supplies	1,711.76	Miscellaneous	238.50
College office	110.65	Current expenses	67.23
Cauthorn hall	194.44	Library	190.24
Advertising	147.80	Meteorology	18.65
Wood	1,580.52	Traveling expenses, paid June 27, 1895	119 90
Sanitary	184.80	Attorneys' fees, paid June 27, 1895	300.00
Furniture	292.47		
Traveling expenses	833.95		
Insurance	618.34		$27,974.84
Repairs and betterments	219.37		

RECEIPTS.

U. S. Government	$21,000.00	April 11, old iron	1.50
State of Oregon, interest	4,160.95	Proceeds of farm and garden	1,252.96
July 12, Cauthorn hall	300.00	Balance from last report	740.88
July 31, rebate, Blake, McFall & Co.	10.25		
August 9, Cauthorn hall	150.00	Total	$28,409.40
1896.		Disbursements	27,974.84
March 19, dividend, H. J. & Co.	792.86	Balance	$ 434.56

Examined and approved.

B. KILLIN,
H. B. MILLER,
Finance Committee.

June 25, 1896.

REPORT OF THE TREASURER.

HATCH FUND.

To the Board of Regents of Oregon Experiment Station in connection with State Agricultural College:

GENTLEMEN:—You will find attached a report of the receipts and disbursements of the station fund as received from U. S. Government under act of 1887.

By an examination thereof you will see there is the sum of $83.77 yet unexpended; and I call your attention to the fact that the same will revert to the Government unless used by you by June 30, instant.

Very respectfully submitted,

J. K. WEATHERFORD, Treasurer.

Agricultural Experiment Station in connection with the Agricultural College of the State of Oregon.

EXPENDITURES BY DEPARTMENTS.

Printing—			
Salary, H. R. Clark		$ 600.00	
Labor		142.05	
Supplies		275.53	
			$ 1,017.58
Agriculture—			
Salary, H. T. French		$ 600.00	
F. L. Kent		833.30	
S. P Smith		514.45	
O. B. Conner		418.65	
Labor		947.21	
Supplies, agricultural	$ 772.85		
dairy	129.51		
		$ 902.36	
			$ 4,215.97
Horticulture—			
Salary, U. P. Hedrick		$ 250.00	
Geo. Coote		508.15	
T. M. Hamilton		545.00	
Wm. Robinson		430.00	
Labor		993.45	
Supplies		428.33	
			$ 3,154.93
Botany—			
Salary, U. P. Hedrick		$ 250 00	
D. W. Trine		299.70	
Labor		1.05	
Supplies		31.66	
			$ 582.41
Chemistry—			
Salary, G. W. Shaw		$ 550.00	
J. F. Fulton		600.00	
Labor		87.75	
Supplies		464.89	
			$ 1,702.64
Photography—			
Salary, E. F. Pernot		$ 700.00	
Supplies		91.65	
			$ 791.65
Entomology—			
Salary, A. B. Cordley		$ 600.00	
Labor		51.00	
Supplies		236.55	
			$ 887.55
Salaries—			
J. K. Weatherford, treasurer			$ 200.00
W. E. Yates, secretary			300.00
J. W. Crawford, accountant			431.25
J. M. Bloss, director			500.00
Erwin, janitor			300.0.
Heat, light, &c.			139.00
Meteorology			30.00
Traveling expenses—			
Horticultural survey		$ 469.55	
Institutes—			
Milton, Oregon	$ 63.50		
Oregon City	17.45		
Denver	89.00		
		$ 169.95	
Board, Hedrick, Portland, horticultural		$ 4.00	
		$ 643.50	
Contingent expenses		12.45	
Library		7.30	
			$14,916.23
Receipts—			
From U. S. Government			$15,000.00
Amount on hand			$ 83.77

FINANCIAL STATEMENT.*

The U. S. Experiment Station in connection with the Oregon State Agricultural College, in account with the United States appropriation, 1895-1896.

Dr.

To receipts from Treasurer of the United States, as per appropriation for year ending June 30, 1896, under act of Congress approved March 2, 1887	$15,000.00

Cr.

June 30th, by Salaries	$ 9,686.05	
Labor	2,171.04	
Publications	269.90	
Postage and stationery	68.51	
Freight and express	144.81	
Heat, light and water	169.80	
Chemical supplies	296.25	
Seeds, plants, and sundry supplies	595.44	
Fertilizers	12.25	
Feeding stuffs	319.48	
Library	10.66	
Tools, implements and machinery	342.75	
Furniture and fixtures		
Scientific apparatus	167.23	
Live stock	159.00	
Traveling expenses	493.50	
Contingent expenses	15.05	
Building and repairs	78.42	
		$15,000.15
Balance unexpended		

We, the undersigned, the Special Finance Committee of the Board of Regents of the State Agricultural College of Oregon and the Experiment Station in connection therewith, on finance and accounts, hereby report that we have examined the books and accounts of the Experiment Station for the year, July 1, 1895, to June 30, 1896, with the vouchers relating thereto, and find that the payments made correspond with the vouchers in question; and that the summary of accounts of receipts and disbursements furnished by the treasurer of the said experiment station, the Hon. J. K. Weatherford, hereunto attached, correctly shows the general result of such receipts and disbursements for the term above specified.

(Signed:) BENTON KILLIN,
H. B. MILLER.

Dated at Corvallis, Oregon, June 30, 1896.

Corvallis, Oregon, September 3, 1896.

I hereby certify that the foregoing is a true copy from the books of account of the Experiment Station in connection with the State Agricultural College of Oregon.

J. K. WEATHERFORD,
Treasurer.

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*This financial statement is a copy of the Annual Report of the Hatch Fund sent to the Department of Agriculture. The Report preceding this one was made some days before the close of the fiscal year.

To the President and Board of Regents of the Oregon Agricultural College:

GENTLEMEN:—Your Finance Committee, after making careful personal examination into the receipts, disbursements and financial condition of the college and station for the year ending June 30, 1896, respectfully presents its report of the result of such investigation. The receipts of the year have been as follows:

Balance on hand	$ 3,601.41
Dividend of 10 per cent from Hamilton, Job & Co.	973.61
Station fund, U. S. Government	15,000.00
College and Morrill Act	21,000.00
College fund, 10 per cent, Hamilton, Job & Co.	792.86
State school fund	4,160.95
Sale of products from farm and station	1,714 71
Total amount	$46,984.42

BENTON KILLIN,
H. B. MILLER,
Finance Committee.

The expenditures of the various departments have been as follows:

Printing—			
Salary, Station	$ 600.00		
College	400.00		
		$ 1,000.00	
Labor, Station	$ 143.05		
College	28.45		
		$ 170.50	
Supplies, Station	$ 275.53		
College	276.45		
		$ 551.93	
			$ 1,722.48
Agriculture—			
Salary	$ 3,266.40		
Labor	947.21		
Supplies	902.36		
			$ 5,115.97
Horticulture—			
Salary	$ 1,733.15		
Labor	993.45		
Supplies	428.33		
			$ 3,154.93
Botany—			
Salary, Station	$ 549.70		
College	1,383.00		
		$ 1,932.70	
Labor, Station	$ 1.05		
College	7.80		
		$ 8.80	
Supplies, Station	$ 31.66		
College	5.65		
		$ 37.31	
			$ 1,978.81
Chemistry—			
Salary, Station	$ 1,150.00		
College	1,225.00		
		$ 2,375.00	
Labor, Station		87.75	
Supplies, Station	$ 464.89		
College	21.30		
		$ 486.19	
			$ 2,948.94

Photography and drawing—			
Salary, Station	$ 700.00		
College	200.00		
		$ 900.00	
Supplies, Station		91.65	
			$ 991.65
Entomology—			
Salary, Station	$ 600.00		
College	900.00		
		$ 1,500.00	
Labor, Station	$ 51.00		
College	2.60		
		$ 53.60	
Supplies, Station	$ 236.55		
College	20.67		
		$ 257.22	
			$ 1,810.82
College—			
Salary	$ 2,000.00		
Office	110.65		
Cauthorn hall	194.44		
Labor	706.50		
Supplies	376.84		
			$ 3,388.43
Physical laboratory—			
Salary		$ 1,500.00	
Labor		32.30	
Supplies		175.73	
			$ 1,708.03
Mechanics—			
Salary		$ 2,665.00	
Labor		424.75	
Supplies		650.91	
			$ 3,740.66
Household economy—			
Salaries		$ 1,900.00	
Labor		77.84	
Supplies		72.55	
			$ 2,050.39
Military—			
Supplies			$ 111.66
Dormitory			540.00
Salaries other than departments—			
Station	$ 1,931.25		
College	6,245.61		
			$ 8,176.86
Sanitary			184.80
Furniture			292.47
Traveling expenses	$ 643.50		
Station	953.85		
			$ 1,597.35
Advertising			147.80
Wood—			
Station	$ 139.00		
College	1,580.52		
			$ 1,719.52
Insurance			618.34
Repairs and betterments			219.37
Care of grounds			255.45
Museum			36.28
Miscellaneous			238.50
Current expenses—			
Station	$ 12.45		
College	67.25		
			$ 79.70
Library—			
Station	$ 7.30		
College	190.24		
			$ 197.54
Meteorology—			
Station	$ 30.00		
College	16.65		
			$ 46.65
Attorneys' fees			300.00
Total			$42,891.07
Improvement fund			3,502.68
Total amount expended			$46,393.75

For the coming year our resources will be—

Balance on hand of improvement fund	$ 72.34
Station fund	83.77
College fund	434.56
From the U. S. Government, Hatch Act	15,000.00
U. S. Government, Morrill Act	22,000.00
State of Oregon school fund, estimated	7,000.00
Station sales, estimated	1,500.00
	$46,090.67

The estimated expense for the coming year is as follows—

Printing	$ 1,722.88
Agricultural department	5,115.97
Horticultural department	3,154.93
Botany	1,978.81
Chemical department	2,948.94
Photography and drawing	991.65
Entomology	1,810.82
College president's salary, etc.	3,388.43
Physical laboratory	1,708.03
Mechanical department	3,740.56
Household economy	2,050.39
Dormitory	540.00
Military	111.66
Salaries, college and station, outside of departments	8,176.86
Sanitary	184.30
Furniture	292.47
Traveling expenses and horticultural survey	1,597.35
Advertising	147.80
Wood for college and station	1 719.52
Insurance	617.30
Grounds, care of	255.45
Repairs and betterments	219 37
Library	197.54
Miscellaneous and current expenses	300.00
Meteorology	120.00
Incidentals and improvements	500.00
Total	$43,591.03

The difference between the estimated receipts and the necessary running expenses leaves an unexpended balance of $2,500, which amount can be appropriated by the Board.

The committee beg leave to call your attention to the standing resolution of the Board providing that when persons drawing salaries from the college or station are absent, or not engaged in performing their duties, the salaries shall not be paid for said period. There has been no deductions on that account for the past year. There is some question as to whether under this rule a vacation with pay is allowable.

We ask the Board to declare its policy as to the expenditure of time and money in advertising for and securing the attendance of students.

We would recommend that the committee on finance, together with the president of the college, be authorized to procure the services of a stenographer and accountant to act as clerk and private secretary for the president.